

Listing of Claims

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) A semiconductor processing system, comprising:

a variable volume chamber to provide a ~~material~~ gas for consumed in a semiconductor process;

a pressure detector to detect a parameter indicative of a pressure of the gas inside the variable volume chamber and to produce an output indicative thereof; and

a pressure controller in communication with the pressure detector and the variable volume chamber, the pressure controller to apply a force to the variable volume chamber based on the output of the pressure detector and thereby regulate the pressure of the gas inside the variable volume chamber.

2. (Currently Amended) The system of claim 1, wherein the pressure controller ~~is~~ comprises a constant pressure controller to ~~apply the force to~~ keep the pressure of the gas inside the variable volume chamber substantially constant.

3. (Original) The system of claim 1, further including a processing chamber, and wherein the variable volume chamber is to provide a precursor material to the processing chamber.

4. (Original) The system of claim 3, wherein the precursor material is to react with another material in the processing chamber.

5. (Original) The system of claim 1, wherein the semiconductor process is a chemical vapor deposition process.

6. (Original) The system of claim 1, wherein the semiconductor process is an atomic layer deposition process.

7. (Original) The system of claim 1, wherein the variable volume chamber comprises a bellows.

8. (Original) The system of claim 7, wherein the bellows is included in a pressurization region.

9. (Original) The system of claim 8, wherein the pressure controller comprises a gas source to selectively communicate with the pressurization region.

10. (Currently Amended) The system of claim 9, wherein the gas source is to selectively communicate with the pressurization region when the pressure of the gas inside the pressurization region is below a desired pressure.

11. (Original) The system of claim 8, wherein the pressure controller comprises a vacuum source to selectively communicate with the pressurization region.

12. (Currently Amended) The system of claim 11, wherein the vacuum source is to selectively ~~communication~~ communicate with the pressurization region when the pressure of the gas inside the pressurization region is above a desired value.

13. (Original) The system of claim 1, wherein the variable volume chamber comprises a piston.

14. (Original) The system of claim 13, wherein the parameter indicative of the pressure is a force on the piston.

15. (Original) The system of claim 1, further including another variable volume chamber.

Claims 16.-22. (Canceled)

23. (Currently Amended) A chemical reactant delivery system, comprising:

a variable volume chamber having an outlet, the outlet to ~~transport~~ deliver a ~~material~~ reactant gas from an interior region of the variable volume chamber to ~~another region~~ a reaction chamber;

a pressure detector to detect a parameter indicative of a pressure of the reactant gas inside the variable volume chamber and to produce an output indicative thereof; and

a pressure controller in communication with the pressure detector and the variable volume chamber, the pressure controller to apply a force to the variable volume chamber based on the output of the pressure detector and thereby regulate the pressure of the reactant gas inside the variable volume chamber.

24. (Currently Amended) The system of claim 23, wherein the pressure controller comprises a constant pressure controller ~~is to apply the force~~ to keep the pressure of the reactant gas inside the variable volume chamber substantially constant.

25. (Original) The system of claim 23, wherein the variable volume chamber comprises a bellows.

26. (Original) The system of claim 25, wherein the bellows is included in a pressurization region.

27. (Original) The system of claim 26, wherein the pressure controller comprises a gas source to selectively communicate with the pressurization region.

28. (Original) The system of claim 26, wherein the pressure controller comprises a vacuum source to selectively communicate with the pressurization region.

29. (Original) The system of claim 23, wherein the variable volume chamber comprises a piston.

30. (Original) The system of claim 23, further including another variable volume chamber.

31. (New) The semiconductor processing system of claim 1, wherein the pressure controller comprises a mechanically moveable member to apply the force to the variable volume chamber.

32. (New) The chemical delivery system of claim 23, wherein the pressure controller comprises a mechanically moveable member to apply the force to the variable volume chamber.